

CLAIMS

What is claimed is:

- 5 1. A speaker segmentation method for associating an at least one segment for each of at least two sides of an at least one audio interaction, with one of the at least two sides of the interaction using additional information, the method comprising:
 - 10 a segmentation step for associating the at least one segment with one side of the at least one interaction; and
 - 20 a scoring step for assigning a score to said segmentation.
2. The method of claim 1 wherein the additional information is at least one of the group consisting of: computer-telephony-integration information related to the at least one interaction; spotted words within the at least one interaction; data related to the at least one interaction; data related to a speaker thereof; external data related to the at least one interaction; or data related to at least one other interaction performed by a speaker of the at least one interaction.
- 25 3. The method of claim 1 further comprising a model association step for scoring the at least one segment against an at least one statistical model of one side, and obtaining a model association score.
4. The method of claim 1 wherein the scoring step uses discriminative information for discriminating the at least two sides of the interaction.
5. The method of claim 4 wherein the scoring step comprises a model association step for scoring the at least one segment against an at least one statistical model of one side, and obtaining a model association score.
- 20 6. The method of claim 5 wherein the scoring step further comprises a normalization step for normalizing the at least one model score.
- 30 7. The method of claim 4 wherein the scoring step comprises evaluating the

association of the at least one segment with a side of the interaction using additional information.

8. The method of claim 7 wherein the additional information is at least one of the group consisting of: computer-telephony-integration information related to the at least one interaction; spotted words within the at least one interaction; data related to the at least one interaction; data related to a speaker thereof; external data related to the at least one interaction; or data related to at least one other interaction performed by a speaker of the at least one interaction.
- 10 9. The method of claim 1 wherein the scoring step comprises statistical scoring.
10. The method of claim 1 further comprising:
 - a step of comparing said score to a threshold; and
 - repeating the segmentation step and the scoring step if said score is below the threshold.
- 15 11. The method of claim 10 wherein the threshold is predetermined, or dynamic, or depends on: information associated with said at least one interaction, information associated with an at least one speaker thereof, or external information associated with the interaction.
- 20 12. The method of claim 1 wherein the segmentation step comprises:
 - a parameterization step to transform the speech signal to a set of feature vectors in order to generate data more suitable for statistical modeling;
 - an anchoring step for locating an anchor segment for each side of the interaction; and
 - 25 a modeling and classification step for associating at least one segment with one side of the interaction
13. The method of claim 12 wherein the anchoring step or the modeling and classification step comprise using additional data.
14. The method of claim 13 wherein the additional data is one or more of the group consisting of: computer-telephony-integration information related

to the at least one interaction; spotted words within the at least one interaction; data related to the at least one interaction; data related to a speaker thereof; external data related to the at least one interaction; or data related to at least one other interaction performed by a speaker of the at least one interaction.

5

15. The method of claim 1 further comprising a preprocessing step for enhancing the quality of the interaction.

10

16. The method of claim 1 further comprising a speech/non-speech segmentation step for eliminating non-speech segments from the interaction.

17. The method of claim 1 wherein the segmentation step comprises scoring the at least one segment with a voice model of a known speaker.

15

18. A speaker segmentation apparatus for associating an at least one segment for each of at least two speakers participating in an at least one audio interaction, with a side of the interaction, using additional information, the apparatus comprising:

20 a segmentation component for associating an at least one segment within the interaction with one side of the at least one interaction; and a scoring component for assigning a score to said segmentation.

25

19. The apparatus of claim 18 wherein the additional information is at least one of the group consisting of: computer-telephony-integration information related to the at least one interaction; spotted words within the at least one interaction; data related to the at least one interaction; data related to a speaker thereof; external data related to the at least one interaction; or data related to at least one other interaction performed by a speaker of the at least one interaction.

30

20. A quality management apparatus for interaction-rich environments, the apparatus comprising:

- a capturing or logging component for capturing or logging an at least one audio interaction;
- a segmentation component for segmenting the at least one audio interaction; and
- 5 a playback component for playing an at least one part of the at least one audio interaction.

10